EMERGENCY GENERATOR VENDOR DATA

250 kW GENERATOR SET

CATERPILLAR

TECHNICAL DATA

250 kW/313 kV•A Standby Power Generator Set – 1800 rpm/60 Hz

Package Performance		
Power rating @ 0.8 PF with fan	kW	250
Power rating @ 0.8 PF with fan	kV•A	313
Fuel Consumption		
100% Load with Fan	gph	18.9
75% Load with Fan	gph	13.4
Cooling System		
Ambient Air Temperature (Consult T.M.I.)		
Designed for operation up to	Deg F	122
Air Flow Restriction (After Radiator)	in water	.25
Standard Radiator Arrangement Data		
Air Flow (Max @ Rated Speed)	cfm	13 500
Engine Coolant Capacity with Radiator	gal	17.4
Engine Coolant Capacity without Radiator	gal	4.2
Exhaust System		
Combustion Air Inlet Flow Rate	cfm	775
Exhaust Gas Stack Temperature	Deg F	1020
Exhaust Gas Flow Rate	cfm	2050
Exhaust Flange Size — (Internal Diameter)	in	6.0
System Backpressure (Max. Allowable)	in water	27
Heat Rejection		
Heat Rejection to Coolant (Total)	BTU/min	5971
Heat Rejection to Exhaust (Total)	BTU/min	16 265
Heat Rejection to Atmosphere from Engine	BTU/min	3469
Heat Rejection to Atmosphere from Generator	BTU/min	1267

Deration: Generator set is designed to operate in ambient temperatures up to 122° F (50° C) and at higher altitudes. Please consult factory for available outputs.

CAT® 446 FRAME GENERATOR SPECIFICATIONS

Type .... Self excited, static regulated, brushless
Construction..... Single bearing, close coupled
Three phase..... 12 lead reconnectable
Insulation..... Class H with tropicalization and antiabrasion
Enclosure ..... Drip proof IP22
Alignment ..... Pilot shaft
Overspeed capability 150%
Wave form ..... Less than 5% deviation
Paralleling capability ..... With optional droop transformer
Voltage regulator..... 3-phase sensing with Volts-per-Hertz
Voltage regulation.. Less than ± 1/2% (steady state) Less than ± 1% (no load to full load)
Voltage gain..... Adjustable to compensate for engine speed droop and line loss
TIF..... Less than 50
THD ..... Less than 5%

CAT® 3306 ATAAC ENGINE SPECIFICATIONS

I-6, 4-stroke-cycle watercooled diesel
Bore — in (mm) 4.75 (121)
Stroke — in (mm) 6.0 (152)
Displacement — cu in (L) 638 (10.5)
Compression ratio..... 15:1
Aspiration..... Air-to-Air Aftercooled

CAT® CONTROL PANEL

24 Volt DC Control
NEMA 1, IP22 enclosure
Electrically dead front
Lockable hinged door
Generator instruments meet ANSI C-39-1
Terminal box mounted
Single location customer connector point
EC compliant — segregated AC/DC connection

Consult your Caterpillar dealer for available voltages.

CATERPILLAR®

250 kW GENERATOR SET

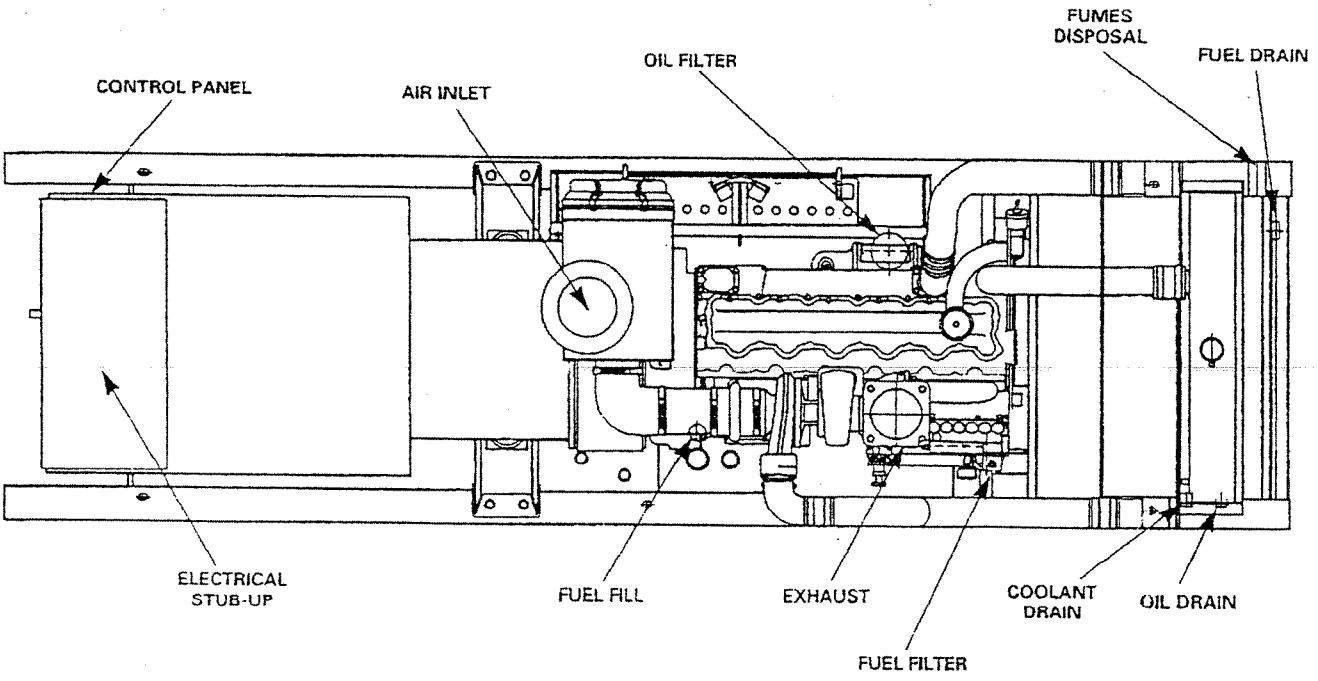
FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

SYSTEM	STANDARD	OPTIONAL
Air inlet	modular air cleaner, single element with dust evacuator service indicator	dual element air cleaner heavy-duty air cleaner air inlet shutoff
Cooling	radiator with guard coolant drain line with valve fan and belt guards Caterpillar Extended Life Coolant	radiator duct flange jacket water heater with isolation valves low coolant level alarm and shutdown heat exchanger and expansion tank
Exhaust	stainless steel exhaust flex with mating weld flange industrial grade muffler	residential muffler critical muffler muffler mounting kit, through-wall installation kit engine exhaust guarding
Fuel	primary fuel filter secondary fuel filter fuel priming pump fuel pressure gauge flexible fuel lines	water separator manual transfer pump automatic transfer systems, 3 configurations low fuel level alarm and shutdown
Generator	self excited class F temperature rise 266° F (130° C) standby circuit breaker, IEC compliant 3-pole with shunt trip	permanent magnet excitation 2:1 Volts/Hz AVR Digital Voltage Regulator (D.V.R.) D.V.R. with KVAR/PF control space heater reactive droop kit oversize and premium generators circuit breaker, IEC compliant, 4-pole with shunt trip
Governor	hydra-mechanical	electronic isochronous and load sharing
Control panels	EMCP II	electromechanical auto start/stop panel switchgear conversion EMCP II+ system expansion modules
Lube	lubricating oil oil drain line with valves fumes disposal	manual sump pump
Mounting	formed steel base with integral fuel tank, 8 hour capacity – minimum linear vibration isolators between base and engine-generator	wide base with integral fuel tank extended capacity fuel tank base skid base
Starting/ charging	45 amp charging alternator Energize To Run (ETR) fuel shutoff solenoid 24 volt starting motor batteries with rack and cables	integral 5 amp battery charger oversize batteries ether starting aid battery disconnect
Other		enclosures – sound attenuated, weather protective automatic transfer switch CE certification

CATERPILLAR®

250 kW GENERATOR SET

STANDBY POWER GENERATOR SET PACKAGE — TOP VIEW



PACKAGE DIMENSIONS		
Length	in	150
Width	in	43
Height	in	76
Shipping Weight	lb	6977

Note: General configuration not to be used for installation. See general dimension drawings for detail.

RATING DEFINITIONS AND CONDITIONS

Standby — Output available with varying load for the duration of the interruption of the normal source power. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Fuel rates are based on fuel oil of 35° API (60° F or 16° C) gravity having an LHV of 18 390 Btu/lb (42 780 kJ/kg) when used at 85° F (29° C) and weighing 7.001 lbs/U.S. gal. (838.9 g/liter).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

The International System of Units (SI) is used in this publication.

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Emissions Data for CAT 3306 - 250 kW Genset

DM3400-00 PGS STANDBY 60 HERTZ
GEN 250.0 W/F EKW 263.0 W/O F EKW W/F BHP 382 W/O F BHP 1800 @ RPM

EXH STK DIA 5.0 IN
INFO CODE 05 - EMISSIONS DATA * * REFERENCE NOTES * * * * * *

EMISSIONS DATA MEASUREMENT IS CONSISTENT WITH THOSE DESCRIBED IN EPA CFR 40 PART 86 SUBPART D AND ISO 8178-1 FOR MEASURING HC, CO, CO2 AND NOX. THESE PROCEDURES ARE VERY SIMILAR TO THE METHODS DESCRIBED IN EPA CFR 40 PART 60 APPENDIX A METHOD 25A FOR HYDROCARBONS, METHOD 10 FOR CO, METHOD 7E FOR NOX.

DATA SHOWN IS BASED ON STEADY STATE ENGINE OPERATING CONDITIONS OF 77 DEG F, 28.42 IN HG AND NUMBER 2 DIESEL FUEL WITH 35 DEG API AND LHV OF 18,390 BTU/LB.

TO PROPERLY APPLY THIS DATA YOU MUST REFER TO PERFORMANCE PARAMETER DM1176 FOR ADDITIONAL INFORMATION, (APPLICATION GKN402, PROGRAM 03).

-GKGPE1 TMI - ENGINE AND COMP PERF
20 - PACKAGE SET PERFORMANCE DATE: 03/31/2000
3306B DI TA AA DRY MANF TURBO QTY 1 CAT 3 GOV TIME: 12:11:13
DM3400-00 PGS STANDBY 60 HERTZ EXH STK DIA 5.0 IN
GEN 250.0 W/F EKW 263.0 W/O F EKW W/F BHP 382 W/O F BHP 1800 @ RPM
CERTIFICATION YEAR CERT AGENCY
INFO CODE 05 - EMISSIONS DATA * * * * * RATED SPEED * * * * STANDARD TIMING
"NOT TO EXCEED DATA"

GEN PWR EKW	% LOAD	ENG PWR BHP	NOX (AS NO2) * * * * * * * *	CO	TOTAL HC LB/HR	PART MATTER * * * * * * * *	O2 (DRY) IN EXH (VOL) %	SMOKE OPAC %	SMOKE BOSCH NO.
250.0	100	382.2	4.29	.95	.12	.110	10.10	1.7	1.29
187.5	75	289.0	3.64	.41	.15	.060	10.90	1.1	1.27
125.0	50	198.3	2.83	.46	.17	.060	12.20	1.4	1.30
62.5	25	110.1	1.56	.49	.11	.060	14.10	1.9	1.35
25.0	10	55.1	.78	.74	.17	.060	15.80	2.1	1.35

-GKGPE2 TMI - ENGINE AND COMP PERF
20 - PACKAGE SET PERFORMANCE DATE: 03/31/2000
3306B DI TA AA DRY MANF TURBO QTY 1 CAT 3 GOV TIME: 12:14:13
DM3400-00 PGS STANDBY 60 HERTZ EXH STK DIA 5.0 IN
GEN 250.0 W/F EKW 263.0 W/O F EKW W/F BHP 382 W/O F BHP 1800 @ RPM
CERTIFICATION YEAR CERT AGENCY
INFO CODE 05 - EMISSIONS DATA * * * * * RATED CONDITIONS * * STANDARD TIMING
"NOMINAL DATA"

AT RATED:

WET EXHAUST MASS	3497 LB/HR
WET EXHAUST FLOW (994 DEG F STACK TEMP)	2175 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	735 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	655 STD CFM
FUEL FLOW RATE	19.0 GAL/HR